



Department of Water
Government of Western Australia

Water and the WA Boom

Pressure points and solutions

CEDA 23 Oct 2008

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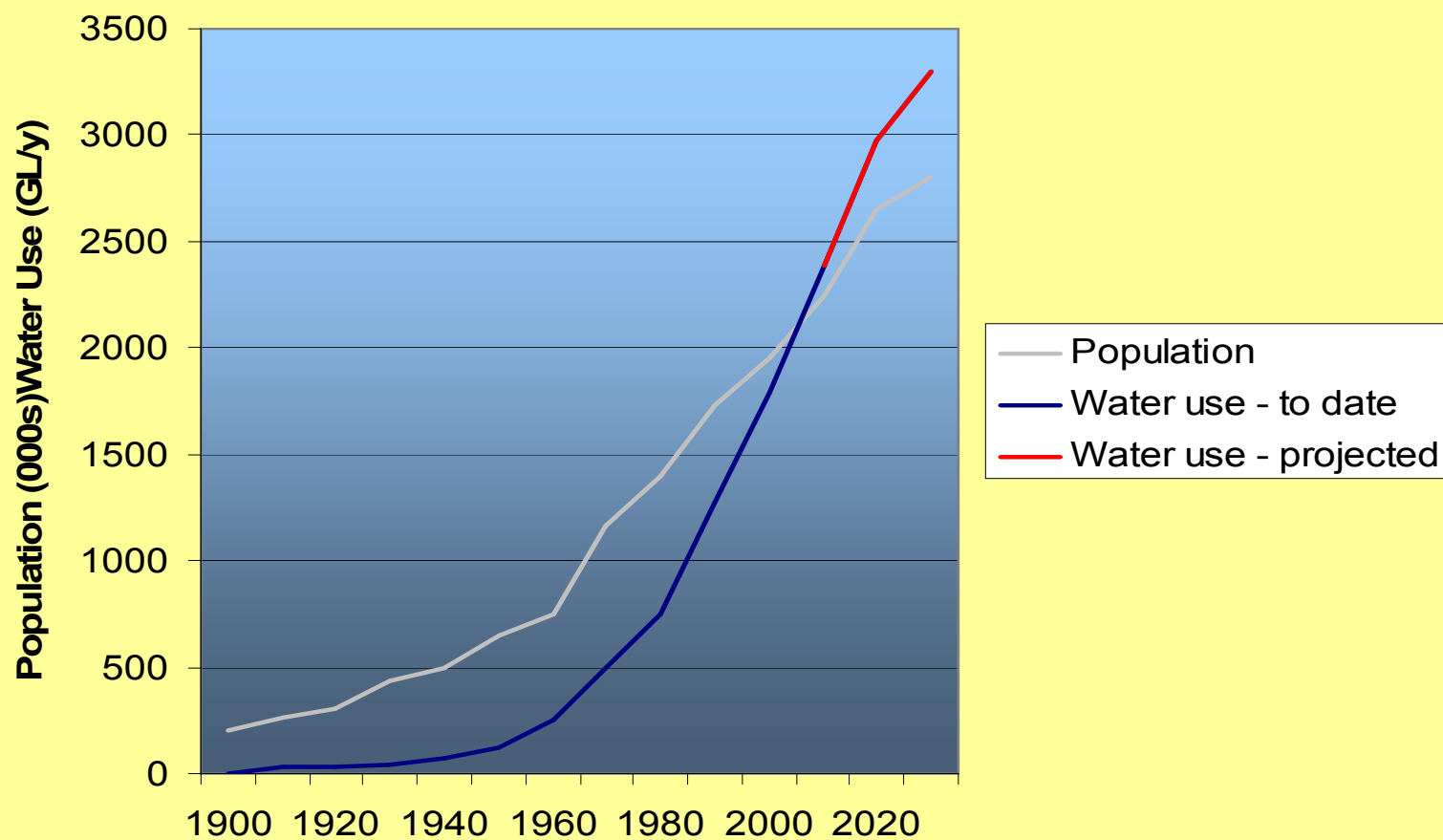


Presentation Outline:

- Water demand growth
 - past, present, future
 - growth by sector
 - growth by region
- Climate change and water availability
- Pressure points – priority regions
- Regional water planning
- Conclusions

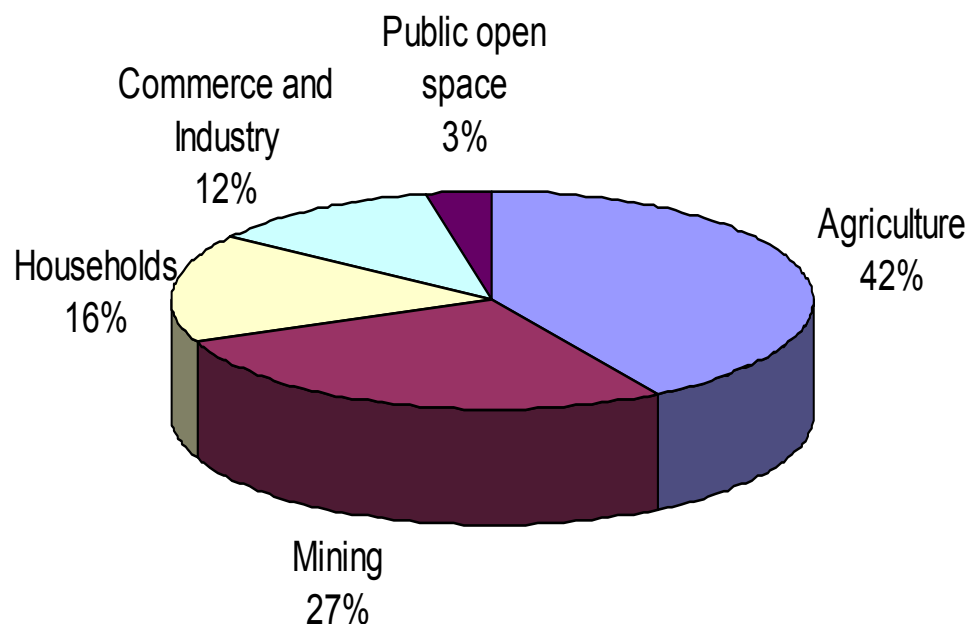


Growth in Population and Water Use in WA 1900 to 2030





Estimated water use by sector 2008



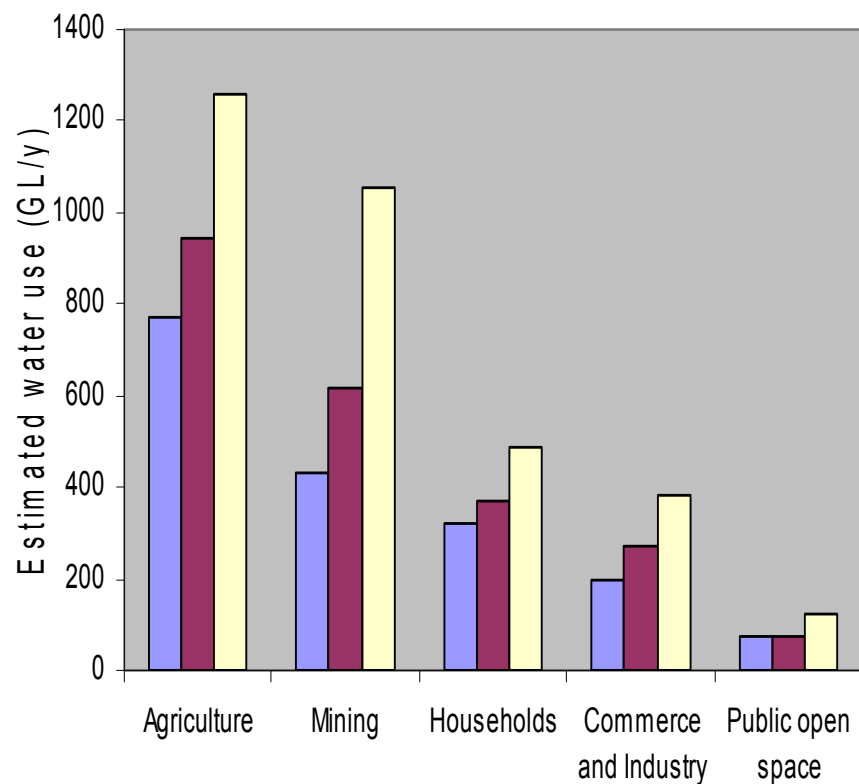
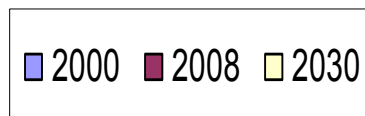
Dominated by:

- Agriculture (42%)
- Mining (27%)



Sector water use growth

Increases in water use by sector



Agriculture sector:

-strong recent growth (23%)

-strong growth to 2030 (33%)

Mining sector:

-very strong recent growth (43%)

-projected very strong growth to 2030 (71%)

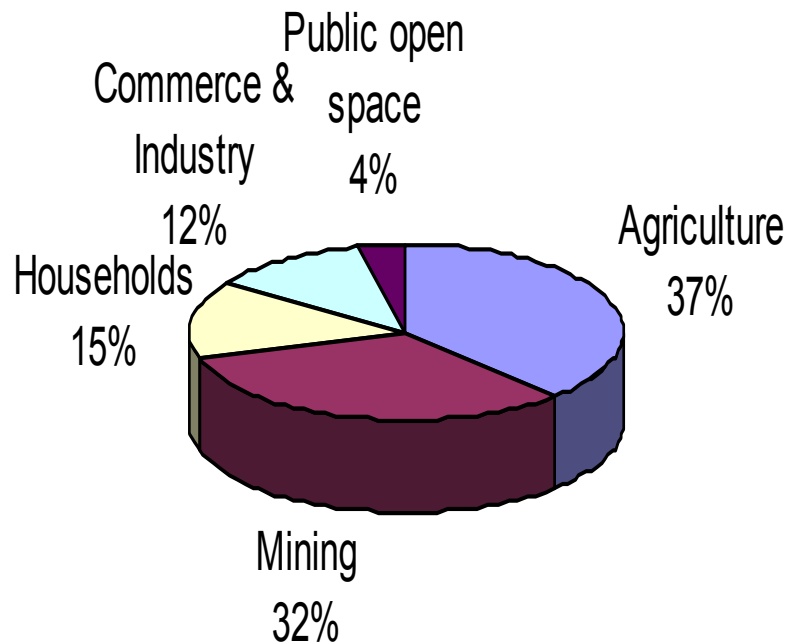
Commerce & Industry

-strong recent growth (39%)

-continued strong growth to 2030 (40%)



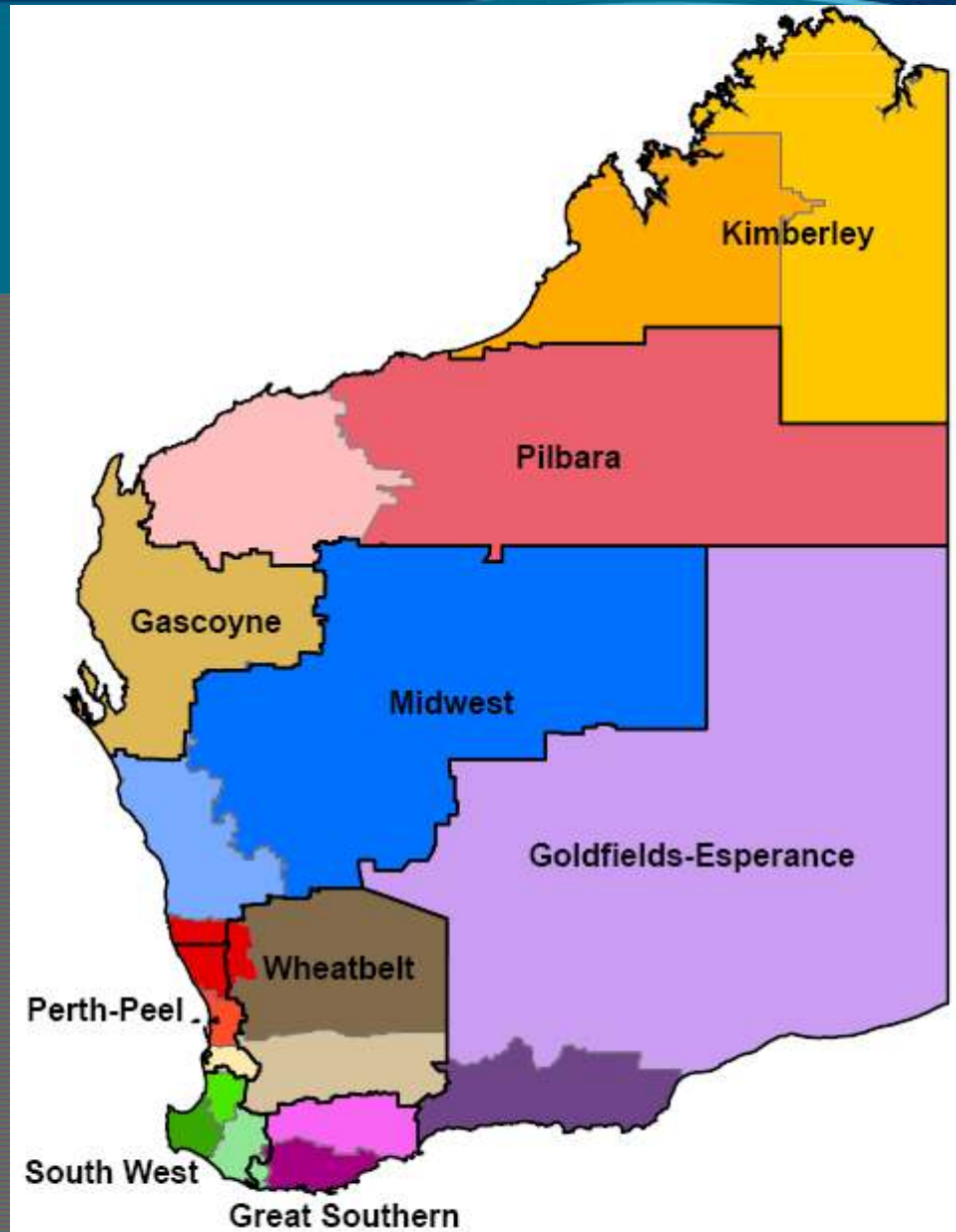
Projected water use by sector 2030



Mining sector projected to increase to nearly a third of all water use in the state.



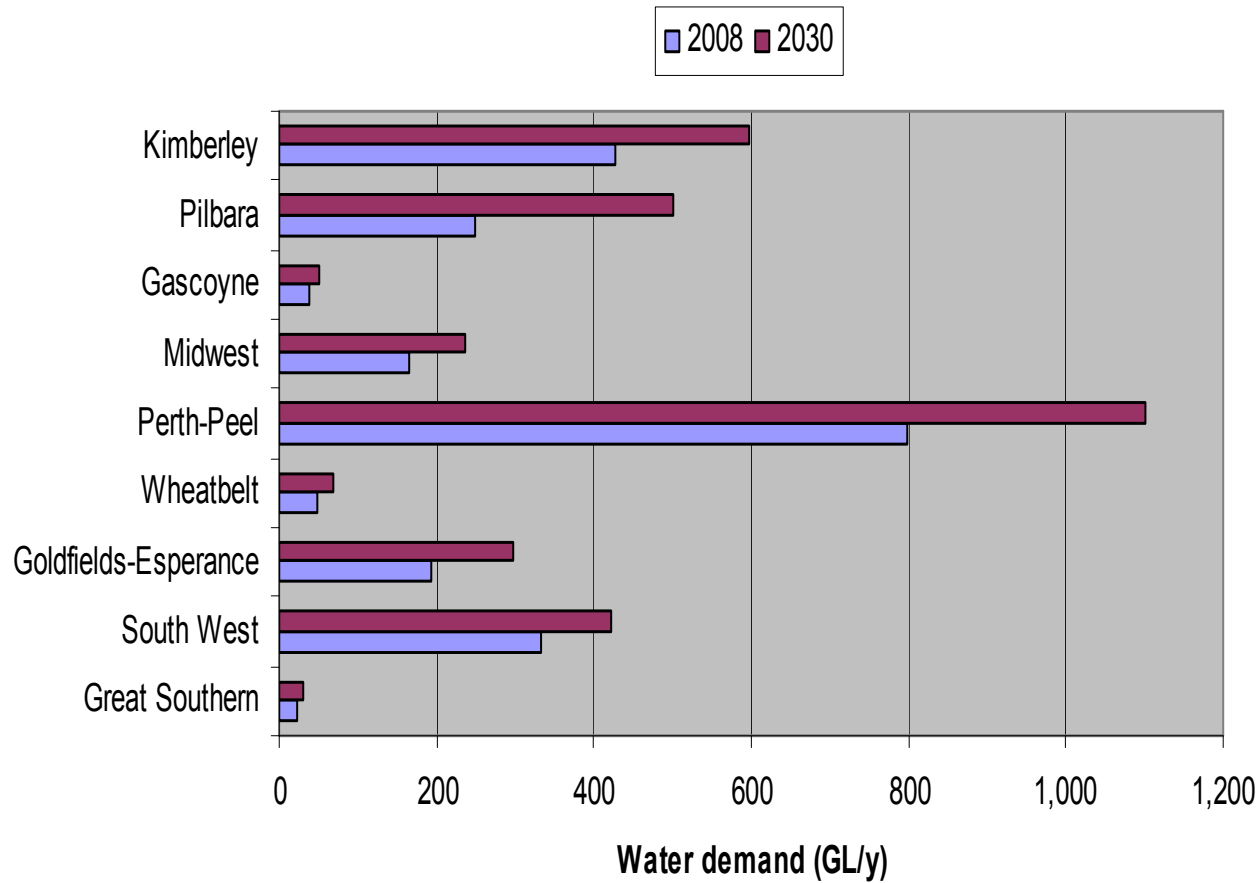
Regions and water demand subregions





Regional growth in water demand

Regional demand growth



Major regions:

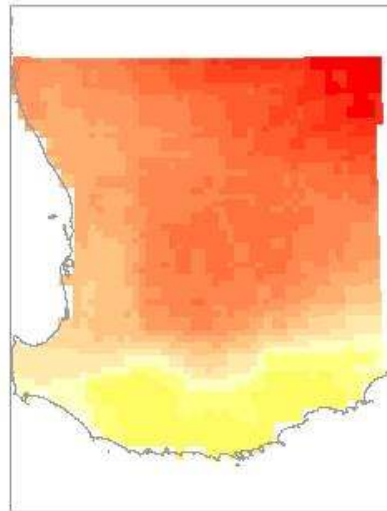
- Kimberley
- Pilbara
- Perth-Peel
- South West



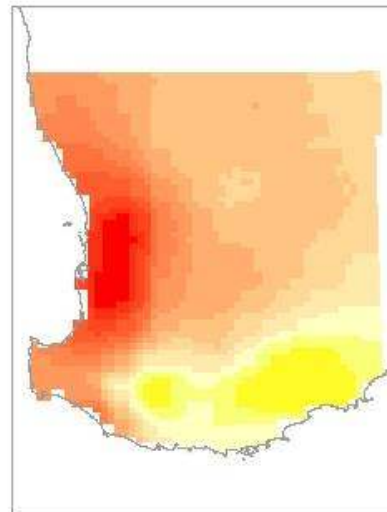
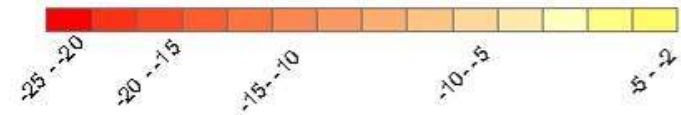
Southern WA

Reductions in annual
rainfall by 2050:

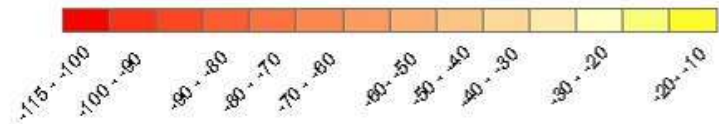
-range from 2%
along the south coast
to 20% north of Perth



Rainfall difference (%)



Rainfall difference (mm)

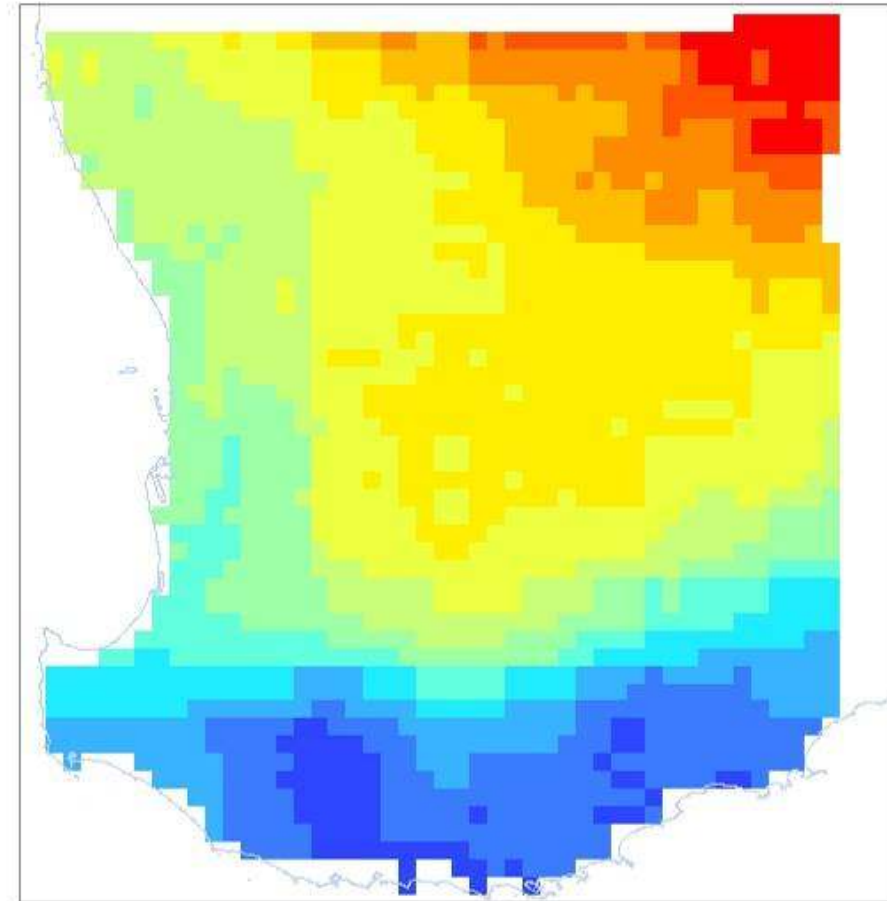




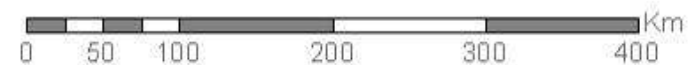
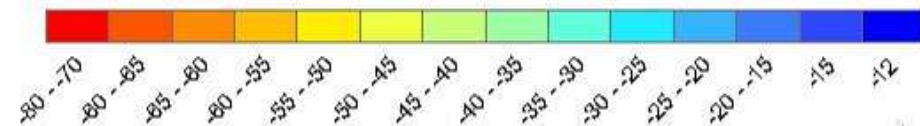
Southern WA

Reductions in annual
streamflows by 2050:

- range from -12% along the
south coast to - 50% in
Perth region

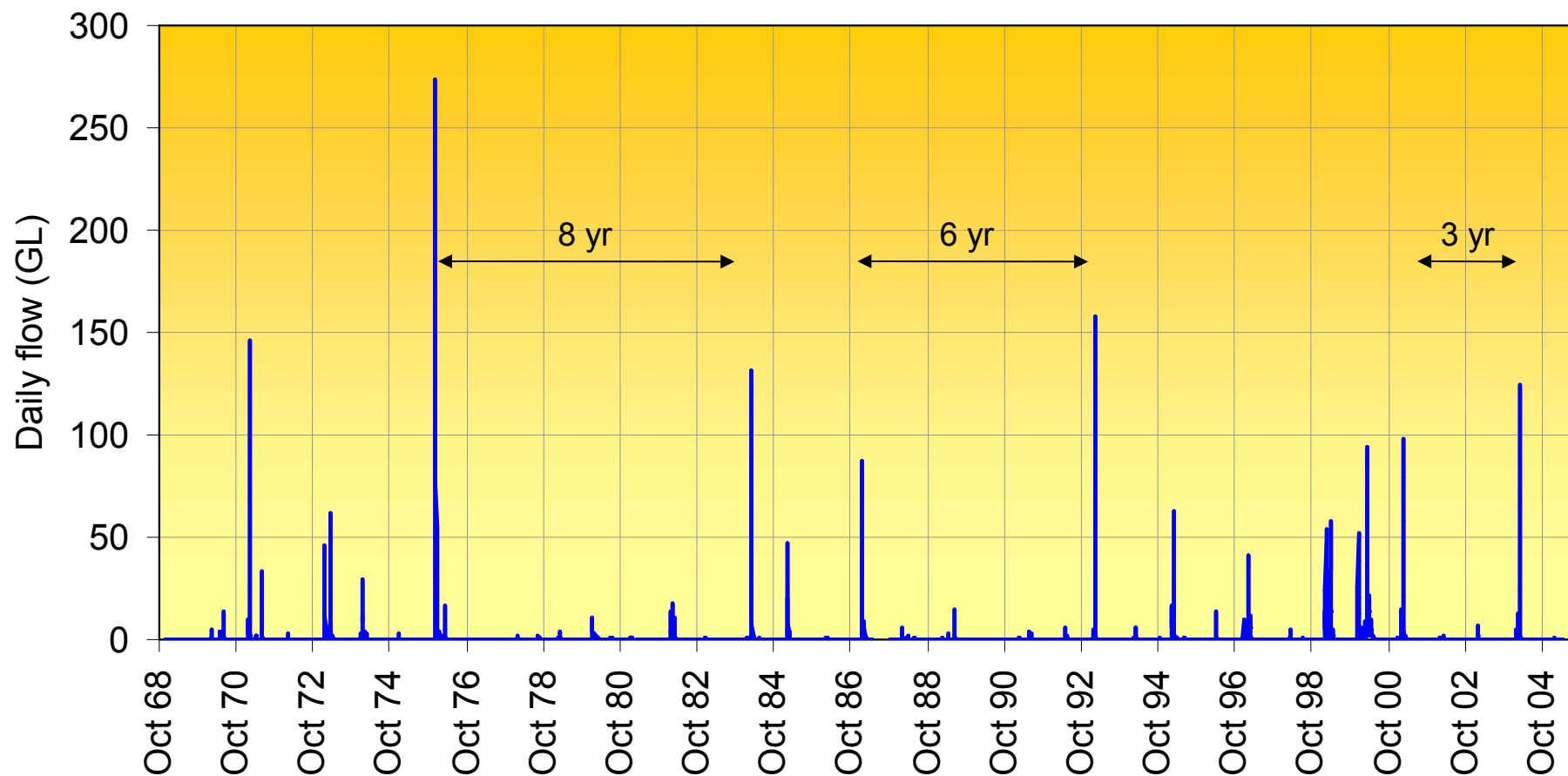


Annual streamflow difference (%)



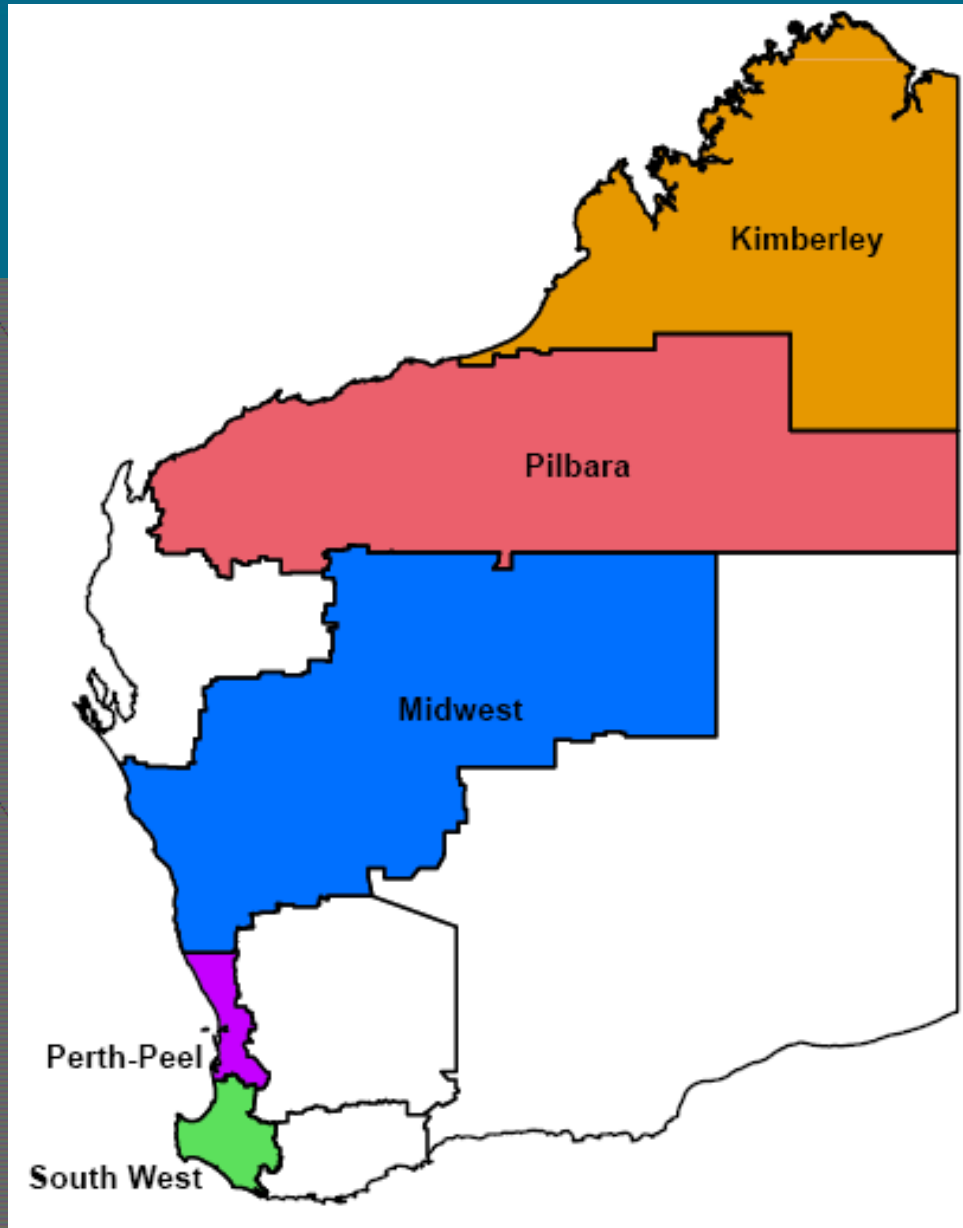


Fortescue River – Gregory Gorge





Priority regions



Kimberley

- Significant growth in irrigated agriculture

Pilbara

- Significant mining demand growth & decreasing supply reliability

Midwest

- Significant mining and agricultural demand growth

Perth-Peel

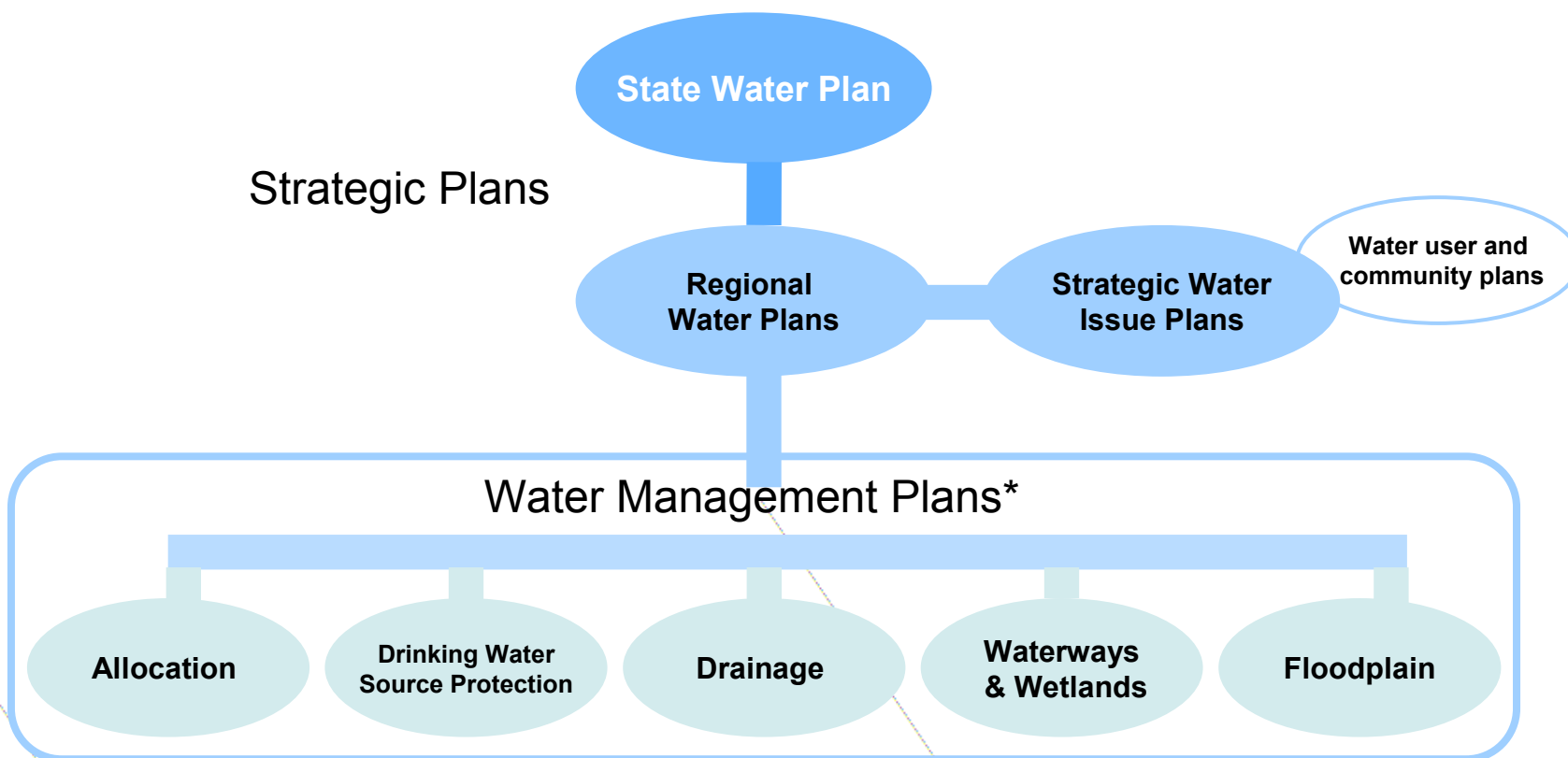
- Significant public and private demand growth & limited availability

South West

- Strong demand growth & reducing availability



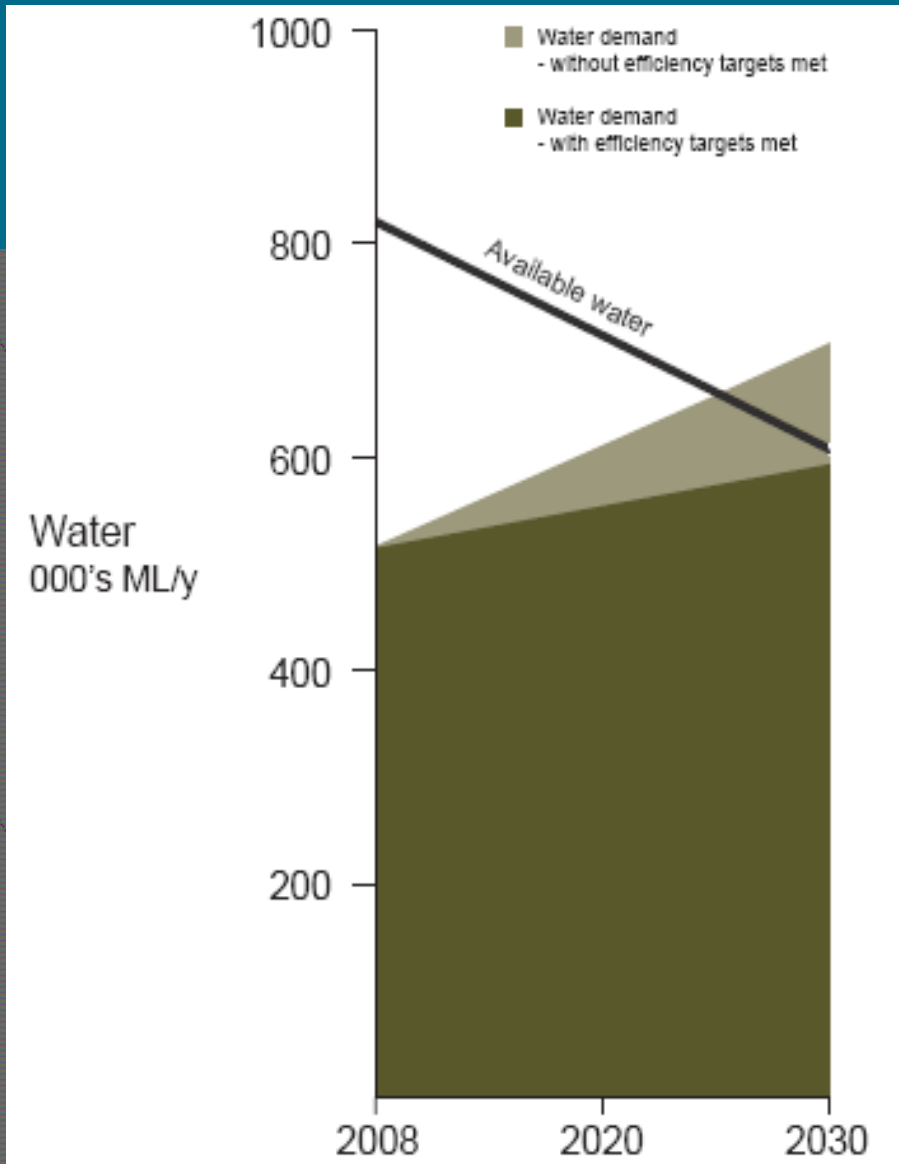
Western Australian Water Planning Framework



* Legal force is defined by relevant legislation



South West regional water plan



Status:

- Draft released for public comment
- Preparing response to public comments & revised plan

Key objectives:

- Enhance water security
- Wise water use and recycling
- Protect ecosystems & water quality
- Plan & manage sustainably



Pilbara regional water plan



Status:

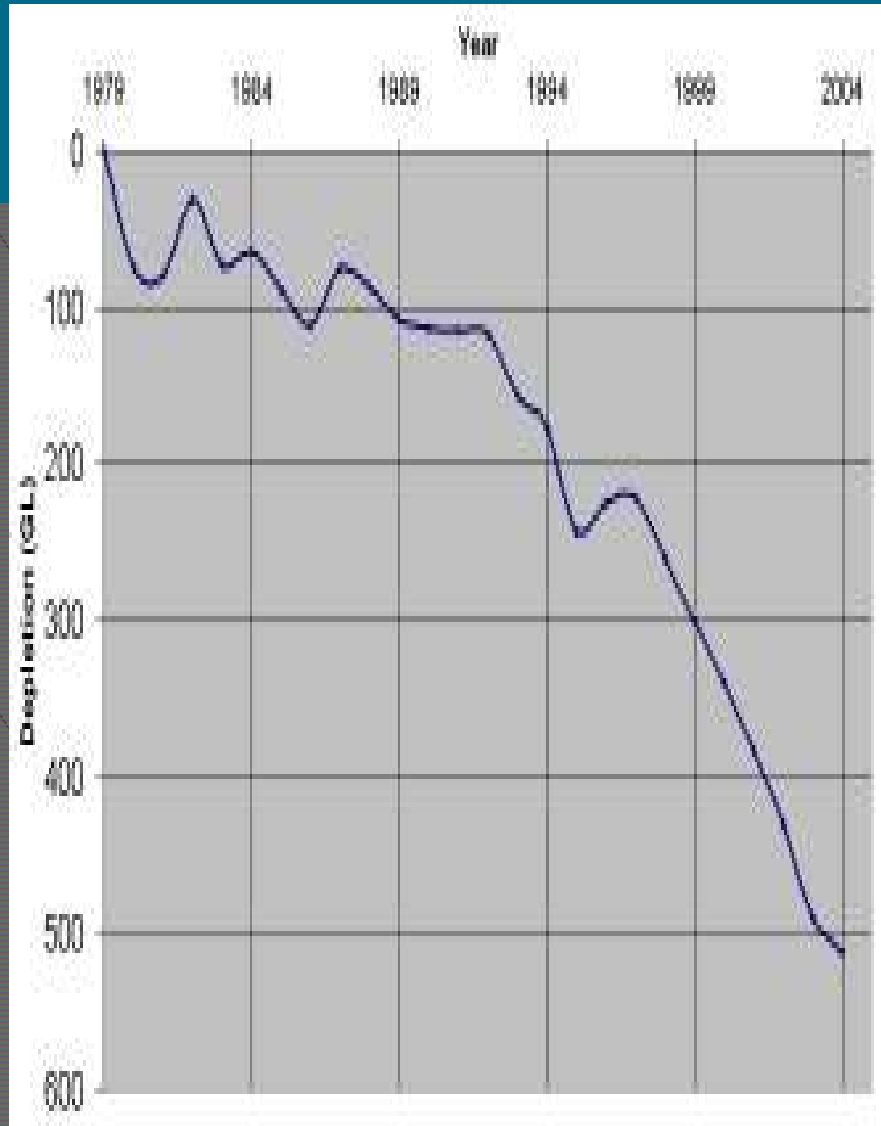
- Draft soon to be released for public comment

Key themes:

- Water supply security
- Efficient water use and recycling
- Protection of rivers, aquifers & wetlands
- Aboriginal and heritage values



Perth-Peel Regional Water Plan



Status:

- Draft plan being developed

Key themes:

- Climate change & supply security
- Water use efficiency and recycling
- Protecting waterways and wetlands
- Urban corridor development



Challenges:

- WA's booming economy is accelerating the demand for water in all sectors
- Climate change is reducing conventional water availability in the south of the state and supply reliability in the Pilbara
- Water balances between demand & availability are shifting rapidly – pressure point regions emerging

Responses:

- Strategic proactive water planning by Dept and Water Service Providers
- Proponents cannot assume water availability – identify and address early
- Increased adoption of non-conventional, climate independent sources – desalination and recycled water
- Increased adoption of water use efficiency
- Use of market and regulatory mechanisms to drive required changes